

Buffelgrass Talking Points

March 2010

Threats to the Ecosystem

Fire is the **greatest threat** because of radical changes in fire regime in desert areas.

- Buffelgrass will allow **more frequent fires**.
 - Buffelgrass creates **combustible fuel** that is present year round (it is a perennial plant).
 - The Sonoran Desert historically burned every ~ 250 years or more when annual plants boomed after wet periods, and even then fires were mild and patchy.
 - **Frequency will increase** because of continuous grass that allows fire spread from backyards to natural areas.
- Fire **size will increase** because fuel allows fire to spread further, burning more area.
- More grass means **increased fire intensity**.
 - Buffelgrass **fuel loads of 1- 4 tons per acre** were found on Saguaro NP.
 - This is more than **2 times to 4,000 times** usual Sonoran Desert fuel loads (including non-native grasses such as red brome and Mediterranean grass).
 - Buffelgrass fire **temperatures** were recorded at **1300-1600 F** versus 190 – 750 F recorded in wildfires fueled by desert annual plants.
 - Rate of buffelgrass fire spread was recorded at **2-3 mph** under moderate weather conditions.
 - Predicted rate of spread is 4-48 times faster than usual Sonoran Desert fires.
 - Buffelgrass **flame length recorded at 12-18 ft** under moderate conditions.
 - Buffelgrass fires miss very little: 99% of available fuel was burned in one experiment.
- **Damage from wildfires will be unprecedented.**
 - Previous fires in the Sonoran Desert were fueled primarily by non-native annual grasses (red brome/Mediterranean grass), and resulted in 20-80% saguaro mortality and significant mortality to other desert vegetation including barrel cacti, cholla, and paloverde tree.
 - Damage from buffelgrass fires will increase to levels not experienced before because of more fuel.
- Fire damage will likely lead to **increases in other invasive species and buffelgrass**.

Signature and common species of the Sonoran Desert are threatened

- Buffelgrass *directly* affects plants through **competition and habitat alteration**.
 - Above 40% buffelgrass cover, native plant cover is very low.
- Buffelgrass *indirectly* affects plants and animals from **fire-induced mortality**.
 - **Native species did not evolve with fire**; many desert plants are fire-intolerant, and animals move too slowly to escape or are not adapted to the fire-altered habitat.
- Recurrent fires could cause **localized extinction** and result in vegetative type **conversion into a grassland or scrubland** and an overall **decrease in Sonoran Desert biodiversity**.

Public safety and the economy

- **Public safety and private property will be threatened** by intense wildland urban interface fires.
- Tucson's **economy will be harmed**, because it depends on tourism, which depends on the Sonoran Desert's unique plants and animals.
- **Real estate values may decline** because of the threat of fire and damaged environment.

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www.nps.gov/sagu/naturescience/invasive-plants.htm

Saguaro National Park's Buffelgrass Efforts

Saguaro National Park is among the leaders in the efforts to control buffelgrass.

- Park employees and volunteers are **using herbicides** and **manually pulling and digging up** buffelgrass.
- We are also **conducting or funding research** to find the best ways to control buffelgrass and protect native species.

Facts and figures about Saguaro National Park's efforts:

- **1989 first known observation** of buffelgrass in the Park (photograph from saguaro monitoring).
- 1991 first written record of buffelgrass in the Park.
- 1993 staff and volunteers begin manual removal of buffelgrass.
- 2000 increased awareness and park attention to buffelgrass; establishment of Invasive Plant Program.
- 2002 extensive survey of buffelgrass at both districts estimated ~175 acres of buffelgrass .
- 2003 spatial logistic regression model predicted buffelgrass could occupy up to 32% of the Arizona Upland of the Sonoran Desert biome within the park.
- **2004 Environmental Assessment and Exotic Plant Management Plan**
- **2005 herbicide program initiated**; manual treatment (23ac) and chemical treatment (272ac); total of 295 acres treated.
- *2007 manual treatment (12ac) and chemical treatment (150ac); total of 162 acres treated.*
- *2008 manual treatment (25ac) and chemical treatment (600ac); total of 650 acres treated.*
- 2009 manual treatment (27ac) and chemical treatment (281ac); total of 308 acres treated (~3" summer precipitation led to shortened green up, which limits herbicide use).
- The Park uses glyphosate as an herbicide, which must be absorbed through green leaves.
- Volunteers contribute over 3,000 hours annually to help control buffelgrass.
- Estimated costs average \$500/acre (range \$200-\$600/acre) for chemical treatments.
- Fall 2009 estimates of **over 2,000 acres of buffelgrass** in the park and **spreading at 35% per year**.
- Park research shows that herbicide can still effectively kill buffelgrass when the plant is in early dormancy (~50% green).
- Pulling & spraying both require **at least 3 years of repeated treatments** because of seeds left in the soil.

Community Efforts

The fight against buffelgrass is a **community-wide** effort.

- Southern Arizona Buffelgrass Coordination Center and Buffelgrass Working Group implementing the Southern Arizona Buffelgrass Strategic Plan.
- Pima County hosts educational trainings and speakers bureau; developed outreach materials.
- Pima County ordinance to control buffelgrass when deemed a threat to human safety and property.
- Rural Metro developing strategies for prevention/education/mitigation, and modifying training to reflect new fuel source.
- Region-wide volunteer efforts to map and pull buffelgrass; over 7 weed wacking groups in the area.
- Annual Beat Back Buffelgrass Day.

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